



ORIGINAL ARTICLE

DETERMINANTS OF HYPERTENSION PREVENTION BEHAVIOR IN WOMEN OF REPRODUCTIVE AGE (WRA) IN TAKERAN SUB-DISTRICT, MAGETAN REGENCY

Determinan Perilaku Pencegahan Hipertensi pada Kelompok Wanita Usia Subur di Kecamatan Takeran Kabupaten Magetan

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ABSTRACT

Background: Basic health research data (Riskesmas) in 2018 shows that hypertension is one of the highest causes of death in Indonesia, reaching 6.8%. If hypertension occurs in women of childbearing age, the risk of complications, morbidity, and even death will be higher due to the risk of eclampsia during labor. Efforts to prevent hypertension in women of Reproductive age (WRA) need to be improved through increasing hypertension prevention behavior. Various factors can influence hypertension prevention behavior. **Purpose:** This study aims to analyze the determinants of hypertension prevention behavior in a group of women of reproductive age in Takeran District, Magetan Regency. **Methods:** This observational study was conducted with a cross-sectional design. The research sample was women of Reproductive age in the Takeran District, Magetan Regency, with as many as 276 people. The sampling technique used purposive sampling technique. This research was conducted in March 2022, using data analysis using the Chi-Square Test and Logistic Regression Test. The instruments used in this research were questionnaires and informed consent. **Results:** There was a relationship between knowledge ($p = 0.02$), self-efficacy ($p = 0.00$), family support ($p = 0.00$), and support from health workers ($p = 0.000$) with hypertension prevention behavior, but there was no relationship between age ($p = 1,00$) and attitude ($p = 0.49$) with hypertension prevention behavior. **Conclusion:** The strongest determinant factor for hypertension prevention behavior in the group of women of Reproductive age was self-efficacy. Good self-efficacy can influence good hypertension prevention behavior.

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Latar belakang: Hipertensi merupakan penyebab kematian dan kesakitan yang tinggi. Apabila hipertensi terjadi pada wanita usia subur, risiko mengalami komplikasi, kesakitan, bahkan kematian akan lebih tinggi. Upaya pencegahan hipertensi pada wanita usia subur juga sangat perlu ditingkatkan melalui perbaikan perilaku pencegahan hipertensi. Perilaku pencegahan hipertensi dapat dipengaruhi oleh berbagai faktor. **Tujuan:** Penelitian ini bertujuan untuk menganalisis faktor penentu perilaku pencegahan penyakit hipertensi pada kelompok wanita usia subur di Kecamatan Takeran, Kabupaten Magetan. **Metode:** Penelitian observasional ini dilakukan dengan rancangan cross sectional. Sampel penelitian adalah wanita usia subur di wilayah Kecamatan Takeran Kabupaten Magetan sebanyak 276 orang. Teknik sampling menggunakan teknik purposive sampling. Analisis data menggunakan Uji Chi-Square dan Uji Regresi Logistic. **Hasil:** Hasil penelitian menunjukkan ada hubungan antara pengetahuan ($p = 0.02$), efikasi diri ($p = 0.00$), dukungan keluarga ($p = 0.00$), dan dukungan tenaga kesehatan ($p = 0.00$) dengan perilaku pencegahan hipertensi, tetapi tidak ada hubungan umur ($p = 1.00$) dan sikap ($p = 0.49$) dengan perilaku pencegahan hipertensi. **Kesimpulan:** Faktor determinan paling kuat untuk perilaku pencegahan hipertensi pada kelompok wanita usia subur adalah efikasi diri ($OR = 3.89$). Efikasi diri yang baik dapat mempengaruhi perilaku pencegahan hipertensi yang baik.

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INTRODUCTION

Hypertension is a condition where blood pressure is above normal limits, which can result in increased morbidity and mortality rates (1). One of the main factors that cause heart disease and stroke is hypertension. WHO estimates the current prevalence of hypertension globally to be 22% of the total world population. WHO also suggests that 1 in 5 women worldwide have hypertension. Hypertension is also one of the highest causes of death in Indonesia, accounting for 6.80% of deaths in Indonesia after stroke and tuberculosis (2). Therefore, hypertension is often called the “silent killer” and causes the iceberg phenomenon (3).

The results of the National Basic Health Research (2018) show that the prevalence of hypertension in Indonesia in the age group of 18 years and over, based on national measurement results, is known to be 34.11%. The prevalence of hypertension in East Java served at the health center in the year was 22.71% (4). Magetan Regency is one of the districts in East Java, which also still has a high prevalence of hypertension cases, with the prevalence of hypertension in the age group ≥ 18 years known to be 70.49%. Hypertension cases in the Magetan Regency are highest in the Takeran District, with a prevalence of 88.03% (5).

Some knowledge related to the prevention of hypertension has often been given to the public,

but public awareness of this disease is still lacking. Several risk factors that can affect the likelihood of developing hypertension include age, genetic inheritance, level of physical activity, stress level, and medication adherence (6). Actually, these prevention efforts have been around for a long time. However, until now, there are still many people who have not implemented hypertension prevention behavior properly, such as many people who smoke and poor eating behavior, such as eating coconut milk and high salt foods too often, especially Magetan people, which mostly contain coconut milk and thick spices.

The high incidence of hypertension also has an impact on the high rate of other chronic diseases such as complications of hypertension such as stroke, heart failure, kidney failure, and other serious diseases, which result in high morbidity and mortality rates (7,8). If hypertension occurs in women of Reproductive age, the risk of experiencing complications, morbidity, and even death will be higher. Increased blood pressure that occurs in women of Reproductive age can threaten the safety of mother and child. High blood pressure during pregnancy can also be associated with the risk of abortion, premature birth, impaired fetal growth, and premature detachment of the placenta. It can cause serious health problems and the risk of death (9,10). Thus, steps to prevent hypertension in women of Reproductive age need to be taken as early as possible.

Efforts to prevent hypertension in women of Reproductive age also need to be improved through improving hypertension prevention behavior. Various factors can influence hypertension prevention behavior. According to research by Setiandari, self-efficacy, knowledge, family support, and health worker support are factors that can influence hypertension prevention behavior in integrated health post-participants aged 17-70 years. In contrast, age is statistically insignificant but can be associated with hypertension prevention behavior (11). In previous research in rural Shadegan, Southwest Khuzestan Province, Iran, the factors of attitude, perception, and self-efficacy can influence hypertension self-management behavior in hypertensive patients aged 30-74 years (12). Based on this background description, the researcher wants to examine the factors of age, knowledge, attitude, self-efficacy, family support, and health worker support for hypertension prevention behavior in women of Reproductive age in Takeran District, Magetan Regency.

METHODS

This type of research is observational quantitative research using a cross-sectional research design. This research was conducted in March 2022, and the instruments were questionnaires and informed consent. In this study, the population is all women of Reproductive age who live in the Takeran District area of Magetan Regency with a total of 6,777 people. Meanwhile, the sample used in this study consisted of some women of reproductive age who live in the Takeran District area of Magetan Regency, totaling 276 people with inclusion and exclusion criteria. Inclusion criteria in this study included women who were not pregnant and women of childbearing age who lived in the Takeran District area and were willing to be respondents. Exclusion criteria in this study include women of childbearing age who have moved from Takeran District, women of childbearing age who have died, and women of childbearing age who suffer from serious illnesses (such as diabetes and hypertension). In this study, researchers used a purposive sampling technique. Ethical clearance was obtained from the Faculty of Medicine Research Ethics Commission Muhammadiyah University of Surakarta (No. 4113/B. 1/KEPK-FKUMS/111/2022).

The instrument used in this research is a questionnaire with data collection techniques using secondary data observation and filling out questionnaires by respondents using Google Forms. The questionnaire was first tested for validity and reliability by the researcher. Based on the validity test conducted in Kawedanan District, Magetan Regency, on 30 respondents using Pearson Product Moment analysis with a validity value limit (r table) of 0.361.

Thus, the knowledge question on women of Reproductive age was declared valid as many as 16 items, the attitude question on women of Reproductive age was declared valid as many as eight items, the self-efficacy question on women of Reproductive age was declared valid as many as nine items, the family support question on women of Reproductive age was declared valid as many as eight items, the health worker support question was declared valid as many as eight items. The hypertension prevention behavior question was valid for as many as 11 items. Based on the results of the reliability test carried out on valid questions, it is known that the reliability test results of the knowledge questions (0.84), attitudes (0.69), self-efficacy (0.83), family support (0.71), health worker support (0.83), and hypertension prevention behavior (0.79), where the results of each variable are more than the Cronbach Alpha value of 0.60 so that it is declared reliable.

This study uses SPSS software and three types of analysis, namely univariate, bivariate, and multivariate. Univariate analysis was used to explain and describe the characteristics of respondents and variables independently. Bivariate analysis was used to test the relationship of independent variables (age, knowledge, attitude, self-efficacy, family support, and health worker support) with the dependent variable (hypertension prevention behavior) using chi-square (χ^2) test analysis. Multivariate analysis was conducted using logistic regression test analysis to determine which independent variables (age, knowledge, attitude, self-efficacy, family support, and health worker support) had the strongest relationship or influence.

RESULTS

Based on Table 1. it was found that most respondents had an age more than the median value (34), namely 52.20%. Based on the respondent's education, there are several categories, namely the categories of No School,

Elementary School, Junior High School, High School, and College. Based on Table 1. it was found that the highest respondent education was high school (62.30%), and the lowest was not school (1.80%). Based on marital status, respondents are divided into two categories: unmarried and married. Based on Table 1. it was found that most respondents were married (90.60%). Also, based on hypertension status, respondents were divided into two categories: yes and no diagnosed hypertension. Based on Table 1. it was found that most respondents were not currently diagnosed with hypertension (91.70%).

Table 1
Characteristics of Respondents

Variable	n=276	%
Age (years old)		
< 34	132	47.80
≥ 34	144	52.20
Education		
No School	5	1.80
Primary	6	2.20
Secondary	15	5.40
High School	172	62.30
University (Bachelor)	78	28.30
Marital Status		
Single	26	9.40
Married	250	90.60
Hypertension Status		
Yes	23	8.30
No	253	91.70

Based on Table 2. it is known that the mean age of respondents is 34 years with the youngest age being 15 years and the oldest age being 49 years. The mean score of respondents knowledge was 11.79 with the lowest score of 3 and the highest score of 16. The mean score of respondents attitude was 25.62 with the lowest score of 19 and the highest score of 32. The mean score of respondents' self-efficacy was 22.64 with the lowest score of 11 and the highest score of 27. The mean score of respondents' family support was 6.86 with the lowest score of 1 and the highest score of 8. The mean score of respondents' health worker support was 6.83 with the lowest score of 0 and the highest score of 8. The mean score of respondents' hypertension prevention behavior was 9.46 with the lowest score of 3 and the highest score of 11.

Based on Table 3. Chi-Square test results, it is known that respondents aged ≥ 34 years mostly have good hypertension prevention behavior

(60.40%), and those aged < 34 years mostly also have good hypertension prevention behavior (60.60%). Based on knowledge, it is known that respondents with good knowledge and good hypertension prevention behavior (65.60%), and those with poor knowledge and good hypertension prevention behavior (51.00%). Based on attitude, it is known that respondents who have good attitudes mostly have good hypertension prevention behavior (62.90%), and those who have bad attitudes mostly also have good hypertension prevention behavior (58.10%).

Based on self-efficacy, it is known that respondents who have good self-efficacy mostly have good hypertension prevention behavior (75.90%), and those who have less self-efficacy mostly have poor hypertension prevention behavior (60.20%).

Based on family support, it is known that respondents who have good family support have mostly good hypertension prevention behavior (58.60%), and those with less family support have mostly poor hypertension prevention behavior (71.00%). Based on health worker support, it is known that respondents who have good health worker support have mostly good hypertension prevention behavior (57.30%), and those with less health worker support have mostly poor hypertension prevention behavior (69.20%).

Based on Table 3. it is also known that there is no relationship between age (1.00) and attitude (0.49) with hypertension prevention behavior because each variable has a p-value > 0.05. Meanwhile, for knowledge (0.02), self-efficacy (0.00), family support (0.00), and health worker support (0.00), there is a relationship with hypertension prevention behavior because each variable has a p-value < 0.05.

Based on Table 4. in the first step, logistic regression test analysis was carried out for all research variables, including age, knowledge, attitude, self-efficacy, family support, and health worker support for hypertension prevention behavior. It is known that the variables of age and attitude do not have a significant relationship with the variable of hypertension prevention behavior because each significance value is > 0.05. Meanwhile, other independent variables such as knowledge, self-efficacy, family support, and health worker support have a meaningful relationship with hypertension prevention behavior variables because the significance value is < 0.05.

Table 2

Descriptive statistic (Age, Knowledge, Attitude, Self-efficacy, Family Support, Health Professional Support, and Hypertension Prevention Behavior)

Variable	Mean/ Median	Min-Max	SD	95%CI
Age	34.04/34	15 - 49	7.96	33.11 – 34.97
Knowledge	11.79/12	3 - 16	2.26	11.52 – 12.05
Attitude	25.62/26	19 - 32	2.71	25.29 – 25.94
Family Support	6.86/8	1 - 8	1.60	6.66 – 7.05
Health Worker Support	6.83/8	0 - 8	1.81	6.61 – 7.05
Prevention Behavior	9.46/10	3 - 11	1.85	9.24 – 9.68

Table 3

Relationship between Age, Knowledge, Attitude, Self-efficacy, Family Support, and Health Worker Support with Hypertension Prevention Behavior

Variable	Hypertension Prevention Behavior				Total		p-value
	Good		Bad		n	%	
	n	%	n	%			
Age (years old)							
< 34	80	60.60	52	39.40	132	100	1.00
≥ 34	87	60.40	57	39.60	144	100	
Knowledge							
Good	118	65.60	62	34.40	180	100	0.02
Bad	49	51.00	47	49.00	96	100	
Attitude							
Good	88	62.90	52	37.10	140	100	0.49
Bad	79	58.10	57	41.90	136	100	
Self-efficacy							
Good	120	75.90	38	24.10	158	100	0.00
Bad	47	39.80	71	60.20	118	100	
Family Support							
Good	85	58.60	60	41.40	140	100	0.00
Poor	38	29.00	93	71.00	136	100	
Health Worker Support							
Good	82	57.30	61	42.70	143	100	0.00
Poor	41	30.80	92	69.20	133	100	

Table 4

Logistic Regression Hypertension Prevention Behavior in The Women of Reproductive Age (WRA) Group in Takeran District, Magetan Regency

Variable	p-value	OR	95%CI
Step 1			
Age	0.92	1.02	0.58 – 1.82
Knowledge	0.03	2.00	1.07 – 3.74
Behavior	0.67	0.87	0.48 – 1.59
Self-efficacy	0.00	3.87	2.18 – 6.85
Family Support	0.00	2.50	1.39 – 4.50
Health Worker Support	0.00	3.60	2.00 – 6.48
Step 2			
Knowledge	0.03	1.93	1.06 – 3.50
Self-efficacy	0.00	3.89	2.20 – 6.87
Family Support	0.00	2.45	1.37 – 4.38
Health Worker Support	0.00	3.59	2.00 – 6.45

Based on Table 4. it was found that of all the independent variables that had a statistically significant relationship in the initial step, including knowledge, self-efficacy, family support, and health worker support, all were known to have a statistically significant relationship/influence with the variable hypertension prevention behavior after repeated logistic regression test analysis because all variables had a significance value < 0.05 . Based on the four significant independent variables, namely knowledge, self-efficacy, family support, and health worker support, all are determinants of hypertension prevention behavior because they have an OR value > 1 . The most dominant determinant of hypertension prevention behavior is self-efficacy because it has the highest OR value of 3.89.

DISCUSSION

This study showed no relationship between age and hypertension prevention behavior in the women of the Reproductive age group in Takeran District, Magetan Regency. This finding is not in line with research conducted by Fauza and Simamora, who said that the age variable could affect the incidence of hypertension in women of Reproductive age (15-49 years), where the analysis results obtained OR = 3.6. This means that respondents aged > 35 years are at risk of 3.6 times more hypertension (13).

This study concluded a relationship between knowledge and hypertension prevention behavior in the women of the Reproductive age group in Takeran District, Magetan Regency. This finding aligns with research conducted on 106 respondents in the Guntung Payung Health Center, Banjarbaru City working area, which shows that knowledge is significantly related to hypertension prevention behavior (14). Similarly, research conducted on pregnant women at Pancoran Mas Health Center also concluded that there was a relationship between knowledge and hypertension prevention behavior in pregnancy (15). Knowledge is one factor influencing behavior, a very important domain in shaping a person's actions or behavior (16). This study found that most respondents had good knowledge. The best aspect of knowledge is about the prevention of hypertension, and the one that still needs to be improved is the risk factors for hypertension. Good knowledge may be associated with respondents' education.

This study showed no relationship between attitude and hypertension prevention behavior in

the women of the Reproductive age group in Takeran District, Magetan Regency. This study aligns with research conducted at the Kebun Handil Health Center in Jambi City, which concluded that no relationship exists between attitude and hypertension control behavior. Attitude is a response to rejecting or accepting information the mind receives (17). If the information obtained can be understood, it does not necessarily mean that the information is carried out so that even though the individual's attitude accepts it, it does not necessarily do it. The attitude of individuals who reject it does not necessarily not do it. In this study, respondents with good and bad attitudes had good preventive behavior. Respondents with poor attitudes but good hypertension prevention behavior may be due to family and peer support factors. The role of the social environment influences attitudes toward individual behavior. Support from the family is one of the factors that has a significant impact and acts as a reinforcement in influencing the survival of individuals with hypertension, especially in women of Reproductive age (18). In this study, most respondents had a good attitude toward hypertension prevention behavior. This may be due to good knowledge. Individuals who have a positive attitude are influenced by positive knowledge, and vice versa (19).

This study shows a relationship between self-efficacy and hypertension prevention behavior in the women of the Reproductive age group in Takeran District, Magetan Regency. This finding aligns with research on hypertensive patients registered at the Martapura II Health Center, South Kalimantan, that there is a relationship between self-efficacy and management of hypertension recurrence prevention (20). High self-efficacy can determine various recommended health behaviors, such as hypertension prevention behavior (21). In this study, respondents who had high self-efficacy mostly had good hypertension prevention behavior, while respondents who did not have high self-efficacy mostly had poor hypertension prevention behavior.

Most respondents had good self-efficacy. After filling out the questionnaire, most respondents' self-efficacy regarding their ability to follow a healthy diet when outside the home still needs to be improved. Most respondents have good efficacy, which may be attributed to good education, knowledge, family support, and energy support. Self-efficacy is related to individual knowledge. The increase in individual knowledge

will increase individual self-efficacy in taking action. Family support is also a factor that affects individual self-efficacy (22). Support is related to individual self-efficacy, which can be obtained from various parties such as family, peers, community, and health workers (23).

This study shows a relationship between family support and hypertension prevention behavior in the women of the Reproductive age group in Takeran District, Magetan Regency. This research is supported by research conducted in Sukoharjo, which showed a correlation between family support variables and hypertension control (24). As a shelter for its members, the family can provide security, comfort, and support in dealing with various problems. Family support is a process that occurs throughout life, which can make families able to function with various minds and intelligence to improve family health (25). Family support will provide strength and create an atmosphere of belonging to each other between family members in meeting family development needs (26). Family support can have an impact on the ease of women of Reproductive age in carrying out hypertension prevention behavior properly because the family has a major role in encouraging other parties.

This study shows a relationship between the support of health workers and hypertension prevention behavior in the women of the Reproductive age group in Takeran District, Magetan Regency. This finding is in line with research conducted on pregnant women at the Pancoran Mas Health Center, which shows that there is a relationship between the role of midwives and pregnancy hypertension prevention behavior (27). Similarly, a study in Gorontalo City on the determinants of diet adherence of hypertensive patients concluded that there was a relationship between the support of health workers and hypertension diet adherence (28).

Health workers influence individual health behavior. Individuals who already know the benefits of healthy behavior can be hindered by the attitudes and actions of health workers who do not motivate and support them to carry out healthy behavior, especially in hypertension prevention behavior (27). In this study, women of Reproductive age who had poor knowledge about hypertension prevention behavior were still quite a lot, so the role and support of health workers was needed. Health workers have an important role in providing moral support for clients in dealing with physical changes and psychological adaptation and

advising clients on how to behave well to prevent hypertension (27).

Self-efficacy is the strongest determinant of hypertension prevention behavior with an OR value of 3.89, which, from the OR value of 3.89, can be concluded that respondents who have poor self-efficacy have a 3.89 times chance of having poor hypertension prevention behavior compared to those with good self-efficacy. This finding aligns with previous research that shows that self-efficacy is among the more dominant factors in supporting proper self-care management of hypertensive patients (29). Self-efficacy is an important aspect of disease management, such as hypertension. Self-efficacy is a person's belief about his or her ability to perform the actions needed to achieve certain results (30).

CONCLUSION

Self-efficacy is the strongest determinant of hypertension prevention behavior (OR=3.894) among Knowledge, Family Support, and Health Worker Support.

CONFLICT OF INTEREST

The authors declare there is no conflict of interest.

AUTHOR CONTRIBUTIONS

MS: Concept Development, Methodology, and Original Manuscript Writing. YK: Data curation, writing—original drafting, proofreading and editing.

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